

August 28, 2015

Tom Moe
USS Corporation
P.O. Box 417
Mountain Iron, MN 55768

RE: Project: NPDES-LINE 3 Wkly
Pace Project No.: 1251958

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods for
Heather R Zika
heather.zika@pacelabs.com
Project Manager

Enclosures

cc: Terri Sabetti, Northeast Technical



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1251958

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

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SAMPLE SUMMARY

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1251958

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1251958001	WS-002 Scrubber Make-Up	Water	08/19/15 09:00	08/19/15 14:00
1251958002	WS-003 Thickner Overflow	Water	08/19/15 09:00	08/19/15 14:00

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SAMPLE ANALYTE COUNT

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1251958

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1251958001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DJT	1	PASI-V
1251958002	WS-003 Thickner Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DJT	1	PASI-V

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ANALYTICAL RESULTS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1251958

Sample: WS-002 Scrubber Make-Up Lab ID: 1251958001 Collected: 08/19/15 09:00 Received: 08/19/15 14:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	83.7	mg/L	5.0	0.29	10	08/24/15 15:15	08/25/15 16:03	7440-70-2	
Magnesium, Dissolved	201	mg/L	5.0	0.67	10	08/24/15 15:15	08/25/15 16:03	7439-95-4	
Total Hardness, Dissolved	1040	mg/L	100	50.0	10	08/24/15 15:15	08/25/15 16:03		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	747	mg/L	20.0	0.89	10		08/22/15 08:49	14808-79-8	

Sample: WS-003 Thickner Overflow Lab ID: 1251958002 Collected: 08/19/15 09:00 Received: 08/19/15 14:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	715	mg/L	5.0	0.29	10	08/24/15 15:15	08/25/15 16:07	7440-70-2	
Magnesium, Dissolved	287	mg/L	5.0	0.67	10	08/24/15 15:15	08/25/15 16:07	7439-95-4	
Total Hardness, Dissolved	2970	mg/L	100	50.0	10	08/24/15 15:15	08/25/15 16:07		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	2050	mg/L	40.0	1.8	20		08/22/15 09:11	14808-79-8	

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1251958

QC Batch: MPRP/5735

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1251958001, 1251958002

METHOD BLANK: 240177

Matrix: Water

Associated Lab Samples: 1251958001, 1251958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	08/25/15 15:13	
Magnesium, Dissolved	mg/L	ND	0.50	08/25/15 15:13	

LABORATORY CONTROL SAMPLE: 240178

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	51.5	103	85-115	
Magnesium, Dissolved	mg/L	50	51.0	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 240179 240180

Parameter	Units	1252041005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	76.7	50	50	129	131	104	108	70-130	2	20	
Magnesium, Dissolved	mg/L	236	50	50	283	291	96	111	70-130	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 240181 240182

Parameter	Units	1252056001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	164	50	50	214	213	99	97	70-130	0	20	
Magnesium, Dissolved	mg/L	86.1	50	50	135	134	97	96	70-130	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1251958

QC Batch: WETA/13325

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1251958001, 1251958002

METHOD BLANK: 239822

Matrix: Water

Associated Lab Samples: 1251958001, 1251958002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	08/21/15 17:08	

LABORATORY CONTROL SAMPLE: 239823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	48.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 239824

239825

Parameter	Units	1252075001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	50	50	49.5	49.4	96	96	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 239826

239827

Parameter	Units	1252056001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	50	50	48.4	48.3	95	95	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1251958

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1251958

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1251958001	WS-002 Scrubber Make-Up	EPA 200.7	MPRP/5735	EPA 200.7	ICP/4511
1251958002	WS-003 Thickner Overflow	EPA 200.7	MPRP/5735	EPA 200.7	ICP/4511
1251958001	WS-002 Scrubber Make-Up	EPA 300.0	WETA/13325		
1251958002	WS-003 Thickner Overflow	EPA 300.0	WETA/13325		

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Section A

Required Client Information:

Section B Required Project Information

Section C
Invoice Information:

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed.

MO#: 1251958

PM: HRZ

Due Date: 09/02/1

CLIENT: USS CORP

Company:	USS Corporation	Report To:	Tom Moe	Regulatory Agency		
Address:	P.O. Box 417	Copy To:				
Mt. Iron MN 55768		Company Name:				
Email:		Address:				
Phone:	Fac	Purchase Order #				
Requested Due Date:		Project Name:	NPDES-LINE 3 WKly	Pace Project Manager:	heather.zika@pacelabs.com,	State / Location
		Project #		Pace Profile #		

[illegible]

Document Name: Sample Condition Upon Receipt Form	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office
Document Revised: 23Feb2015	Page 1 of 1	

Sample Condition
Upon Receipt

Client Name:

Project #:

Tracking Number:

Courier:

☐ Fed Ex ☐ UPS ☐ USPS ☒ Client

USS Corporation

MO#: 1251958



1251958

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No ☐ Seals Intact? ☒ Yes ☐ No ☐ Optional: ☐ Prof. Due Date: ☐ Prof. Name: ☐ Temp Blank? ☒ Yes ☐ No ☐ Thermometer Used: ☒ 140792808 ☐ Cooler Temp Read °C: ☐ 1.6 ☐ Cooler Temp Corrected °C: ☐ 1.9 ☐ Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun ☐ Biological Tissue Frozen? ☒ Yes ☐ No ☐ N/A ☐ Temp should be above freezing to 6°C ☐ Correction Factor: ☐ 1.3 ☐ Date and Initials of Person Examining Contents: ☐ 8-19-15/124

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered Volume Received for Dissolved Tests?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes Date/Time/ID/Analysis Matrix:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Headspace in Methyl Mercury Container	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Headspace in VOA Vials (>6mm)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

CLIENT NOTIFICATION/RESOLUTION

Person Contacted:

Comments/Resolution:

Date/Time:

Field Data Required? ☐ Yes ☐ No

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Date:

8/20/15

HA2